

## **Attachment 1**

### **Project-Specific Design Criteria and Monitoring**



## Design Criteria

Forest Plan standards and guidelines, Regional Watershed Conservation Practices (WCPs, Forest Service Handbook 2509.25), and other management requirements apply to planned activities. Standard direction is listed in Attachment 2 and repeated here only if clarification is required. Other design criteria applicable to activities planned under the selected alternative include the following.

Applies To:	Measure
<p><b>All Activities</b></p>	<p><b>Brush Disposal:</b></p> <ul style="list-style-type: none"> <li>Disposal of slash piles created through timber harvest or fuel treatments will be funded appropriately. Rehabilitation of pile sites will include site preparation and seeding to return the sites to productivity and control the spread of noxious weeds.</li> </ul>
	<p><b>Heritage Resources:</b></p> <ul style="list-style-type: none"> <li>Known heritage sites will be protected (sites 48CK1480 and 48CK1660). No activities will take place within 30 meters (100 feet) of these sites. Heritage sites will be avoided during all proposed activities.</li> <li>If previously unknown heritage resources are discovered during project activities, project staff will stop ground-disturbing actions within 50 meters of the site and notify the district archeologist before activities are resumed.</li> <li>Leaders of project activities described in this EA will review heritage maps and implement mitigation measures for sites listed in the heritage resources file.</li> </ul>
	<p><b>Improvements:</b></p> <ul style="list-style-type: none"> <li>All Forest Service-authorized improvements, such as fences, property corners, and water developments, will be shown as protected improvements on timber sale area maps and protected during management activities. Items requiring special attention include the following:</li> <li>The Natural Resources Conservation Service (NRCS) Cole Canyon snow monitoring site in T52N R63W section 22. Any activities proposed within 400 feet of the site will be coordinated with the NRCS.</li> <li>Vista West wells and water system in T51N R63W sections 4 and 9 and T52N R63W section 33.</li> <li>Above-ground electrical junction boxes in Ogden and Reuter Canyons. Any activities proposed near these sites will be coordinated with Power River Electric Corporation.</li> </ul>
	<p><b>Noxious Weeds:</b></p> <ul style="list-style-type: none"> <li>Contracts and permits issued as part of this project will include measures to limit spread of noxious weeds. Heavy equipment used for timber harvest will be washed before entering the timber sale area if the area it previously operated in is unknown or documented to be infested with noxious weeds. Where data are available, noxious weed infestations will be identified by District staff and designated on sale area maps for any timber sales associated with this project.</li> <li>Where ground-disturbing activities will occur in areas infested with weeds and funding is available, weeds will be treated before project implementation to reduce future spread and establishment of noxious</li> </ul>

Applies To:	Measure
All Activities	<p>weeds.</p> <ul style="list-style-type: none"> <li>Review of the area for noxious weed infestations will continue during the timber sale. If new noxious weed infestations that could be spread by timber sale activities are found during implementation, actions to minimize spread will be taken.</li> <li>Infestations of tansy and yellow toadflax are present along many roads in the project area. Project managers will coordinate activities with district weed managers to avoid these infestations or minimize the potential for spread.</li> <li>Weeds will be treated following project implementation as necessary.</li> </ul>
	<p><b>Public Safety:</b></p> <ul style="list-style-type: none"> <li>Appropriate signing or other cautionary measures will be implemented in conjunction with all management activities for public safety. Implementation of these measures will be the responsibility of the person initiating the action (e.g., logging contractor, prescribed fire manager).</li> </ul>
	<p><b>Range:</b></p> <ul style="list-style-type: none"> <li>Managers of vegetation treatment projects will consult with District range managers to ensure alteration of natural barriers does not allow livestock to circumvent fences.</li> </ul>
	<p><b>Rare Species:</b></p> <ul style="list-style-type: none"> <li>Disturbance of any newly discovered colonies of land snails will be avoided. The district wildlife biologist will determine a buffer area around newly discovered colonies based on site-specific conditions.</li> <li>Any new goshawk nests found during project implementation will be protected in accordance with Forest Plan direction.</li> <li>Any raptor nests found during project layout or implementation will be evaluated by a qualified biologist on a site-specific basis to determine if special requirements are warranted to protect site integrity.</li> <li>Ground-disturbing activities, including construction of landings, skid trails, and firelines, will not take place in the montane grassland area on Warren Peak, shown on Map 1 attached to the botany biological evaluation contained in the analysis file.</li> <li>Non-commercial thinning and burning are proposed adjacent to an occurrence of <i>Botrychium campestre</i>. No ground disturbing activities will take place in the area of the occurrence as shown on Map 2 attached to the botany biological evaluation contained in the analysis file.</li> <li>Activities overlapping areas of suitable sensitive plant habitat will be designated on the ground in conjunction with a qualified botanist to ensure that habitat is protected from unacceptable levels of ground disturbance. Any removal of pine from birch-dominated communities will take place only if it can be accomplished without damaging the birch community. Affected areas are mapped in the analysis file and include parts of sites 010803-124; 010806-5, 37, 38, 39, and 64; 010903-14; and 010904-13 and 59.</li> </ul>
	<p><b>Recreation:</b></p> <ul style="list-style-type: none"> <li>Reuter and Sundance campgrounds will be protected during proposed activities. Only sanitation and hazard-tree cutting will take place in Reuter campground and will occur only between Labor Day and Memorial Day.</li> </ul>

Applies To:	Measure
All Activities	<ul style="list-style-type: none"> <li>• Non-motorized trails will be shown as protected improvements on timber sale maps. Project administrators will ensure protection of trails during project implementation.</li> <li>• Snowmobile trails will be shown as improvements on timber sale area maps and protected during harvest operations. An evaluation of the potential for conflicts between logging and trail use will take place at the time of timber sale appraisal and contract preparation. If conflicts appear likely between use of the snowmobile trails and specific logging units or haul routes, logging will be restricted between December 15 and March 31 unless a logical and desirable alternative snowmobile route is identified. Only those units and/or roads in conflict will be restricted so that logging operations could proceed in the remainder of the sale area.</li> <li>• Winter operations of timber sale units that necessitate skidding across a snowmobile trail but do not otherwise affect the trail may be allowed. Determination will be made on a case-by-case basis, with crossings permitted only at locations approved by the sale administrator and with proper cautionary signing installed by the timber contractor.</li> </ul>
	<p><b>Revegetation:</b></p> <ul style="list-style-type: none"> <li>• Native vegetation will be retained to the maximum extent possible during proposed activities.</li> <li>• Disturbed soil will be revegetated in a manner that optimizes plant establishment for that specific site. Revegetation may include topsoil replacement, planting, seeding, fertilization, liming, and placement of weed-free mulch as necessary. Revegetation will be initiated as soon as possible, generally not to exceed 6 months, after termination of ground-disturbing activities. All disturbed soils will be revegetated with native species when available using seed mixtures that are free of noxious weeds. On areas needing the immediate establishment of vegetation, non-native, non-aggressive annuals, non-aggressive perennials, or sterile perennials may be used until native perennials become established. These species can be used to prevent the spread of noxious weeds and prevent erosion. Only weed-free mulch will be used.</li> </ul>
	<p><b>Scenery:</b></p> <ul style="list-style-type: none"> <li>• Activity slash will be reduced to natural levels within 300 feet of the Warren Peak Highway or where visible from this road, whichever is less.</li> </ul>
	<p><b>Snags:</b></p> <ul style="list-style-type: none"> <li>• Except in salvage units, snags will be cut only for safety reasons and when necessary for construction of roads, skid trails, firelines, and log landings. Snags over 20 inches DBH and those with cavities will be cut only for safety reasons.</li> </ul>
	<p><b>Soil and Water:</b></p> <ul style="list-style-type: none"> <li>• Heavy equipment will not enter the water influence zone along perennial or intermittent streams (100 feet on either side of the stream) (standard 1301 and WCP management measure 3) except to conduct road work at designated locations. Timber harvest is proposed within 100 feet of Richardson Creek and the unnamed channel south of Richardson Draw (T52N, R63W, sec. 28). In these locations, logs will be removed using the method that results in the least ground disturbance, depending on site-specific conditions at the time of harvest. The analysis file contains</li> </ul>

<b>Applies To:</b>	<b>Measure</b>
	<p>maps of these locations.</p> <ul style="list-style-type: none"> <li>• Heavy equipment will not enter the meadows along Whitelaw and Whitetail Creeks adjacent to stand 010803-109 to prevent further rutting.</li> <li>• Adaptive management treatment in stands 010605-15, 010605-16, 010609-4, 010609-8, 010609-9 and 010904-43 will retain at least a third of the existing crown cover to minimize the potential for mass movement of soils.</li> </ul> <p><b>Wildlife:</b></p> <ul style="list-style-type: none"> <li>• While any projects resulting from this analysis are taking place, all gates that will normally be closed during big game firearm hunting seasons will be kept closed during these seasons and one week before the seasons except to allow administrative traffic to pass. Gates will be closed again immediately after traffic passes.</li> </ul>
<b>Timber Harvest</b>	<p><b>Range:</b></p> <ul style="list-style-type: none"> <li>• All pasture gates will be identified on timber sale area maps and kept closed during the grazing season (June through October). Maintained fences will be protected during logging operations.</li> <li>• If log hauling or movement of heavy equipment related to the proposed timber harvest causes damage to cattleguards, the timber purchaser will be responsible for repair.</li> </ul> <p><b>Rare Species:</b></p> <ul style="list-style-type: none"> <li>• To protect rare plants, logs will not be skidded through hardwood communities unless the hardwood stand is being treated.</li> <li>• Any skid trails, temporary roads, and landings in high-potential sensitive plant habitat will be designated in consultation with a qualified botanist. Any moist forest or riparian meadow communities outside of treatment units will be avoided unless approved by a qualified botanist for entry. Maps of these areas are in the analysis file.</li> </ul> <p><b>Recreation:</b></p> <ul style="list-style-type: none"> <li>• Treatments in stands 010806-17 and 010806-67 will be laid out to retain trees along the Carson Draw trail that discourage users from cutting across switchbacks. Sale layout personnel will coordinate unit design with North Zone engineering trails personnel.</li> </ul> <p><b>Road Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Timber sale units will be laid out to facilitate existing road restrictions (for example, trees around gates and other barriers will be left uncut to maintain obstructions and discourage driving around the gate or barrier).</li> </ul> <p><b>Scenery:</b></p> <ul style="list-style-type: none"> <li>• Layout and marking of timber sale units will comply with forest-wide marking guides in effect at the time of implementation.</li> <li>• Where treatments will be visible from Interstate 90, edges of treatment units will be feathered into untreated stands to mimic natural forest/opening edge typically found in this landscape. Affected areas are mapped in the project file.</li> <li>• Where possible, treatments will be designed to reduce the chance of wind damage to residual trees. This may include retaining higher density of mature trees on exposed ridges, lee slopes, and other areas prone to high winds and heavy snow accumulation.</li> </ul> <p><b>Snags and Down Logs:</b></p>

Applies To:	Measure
	<ul style="list-style-type: none"> <li>Where possible, any snags cut as safety hazards will be left on site rather than salvaged or skidded to landings. Timber sale contract provisions will be used to protect snags.</li> <li>To ensure provision of down woody material, existing down material and cull logs will remain on-site following all commercial treatments.</li> </ul>
<b>Prescribed Fire</b>	<b>Burn Plan:</b> <ul style="list-style-type: none"> <li>Prescribed burning will be implemented only under conditions defined in a prescribed burn plan.</li> </ul>
	<b>Heritage Resources:</b> <ul style="list-style-type: none"> <li>Heritage resource inventory will be completed in proposed burn units prior to implementation per FS Agreement No. 01-MU-11020000-015 (Programmatic Agreement Among the Advisory Council on Historic Preservation, the Colorado, Wyoming, South Dakota, Nebraska, and Kansas SHPOs, and the USDA Forest Service Rocky Mountain Region Regarding Implementation of the Prescribed Fire Program).</li> </ul>
	<b>Improvements:</b> <ul style="list-style-type: none"> <li>Utility lines will be protected during prescribed burns.</li> </ul>
	<b>Rare Species:</b> <ul style="list-style-type: none"> <li>Fire control lines will not be located in high-potential sensitive plant habitat.</li> </ul>
	<b>Soil and Water:</b> <ul style="list-style-type: none"> <li>See Attachment 2.</li> </ul>
<b>Transportation System</b>	<b>Dust Control:</b> <ul style="list-style-type: none"> <li>Dust control, if necessary, may be done with water, magnesium chloride, calcium chloride, or equivalent.</li> </ul>
	<b>Noxious Weeds:</b> <ul style="list-style-type: none"> <li>District staff responsible for the noxious weed program will, in coordination with the project engineer, inspect gravel pits for noxious weed infestation before transport and use of gravel and other material. Infestations will be treated to prevent spread.</li> <li>District staff responsible for the noxious weed program will inspect stockpiled gravel annually for weed infestation in coordination with the project engineer.</li> </ul>
	<b>Revegetation:</b> <ul style="list-style-type: none"> <li>Timber sale roads will be seeded after construction but before timber harvest if any part of the gap between construction and harvest will occur between April and October. This may be accomplished under the road contract. If necessary, seeding will again occur after use of the road is complete. Seeding may be delayed until after completion of harvest if the gap between construction and harvest will be of short duration and hydrology, soils, engineering, and noxious weed specialists determine after field review that a delay will be acceptable.</li> </ul>
	<b>Soil and Water:</b> <ul style="list-style-type: none"> <li>See Attachment 2.</li> <li>Reconstruction of NFSR 830.1B, NFSR 838.1E, NFSR 899.2, and U610112 may take place within water influence zones. A qualified hydrologist will be consulted during design and implementation of the reconstruction to ensure the integrity of the water influence zone is</li> </ul>

Applies To:	Measure
	<p>maintained.</p> <p><b>Travel Management:</b></p> <ul style="list-style-type: none"> <li>• All newly constructed roads and skid trails will be closed following construction until needed for timber sale or related activities and closed again after use. Roads needed for timber sale or related activities but normally closed to motorized vehicles will also be closed when not in use.</li> </ul>

## Monitoring

The Forest Service will monitor implementation of the selected alternative. The timber sale administrator or other contract administrators will complete some of the project implementation monitoring as part of standard contract administration duties. Other resource specialists will be involved in monitoring of specific measures relating to their particular resource area. Monitoring items are listed below.

- The district planning team will monitor implementation of the selected alternative prior to offer of any resulting timber sale to verify that acreage of each treatment type is consistent with parameters described in this document.
- The district archeologist will monitor known heritage sites eligible or potentially eligible to the National Register of Historic Places before and after project implementation.
- Prescribed fire managers will establish photo points in prescribed burn units to compare pre- and post-treatment conditions and document fire behavior during implementation.
- Fuels staff will evaluate effectiveness of fuel treatments in reducing fuel loading.
- Fire managers will evaluate burned areas to establish a timeline for maintenance burning.
- Project managers will monitor revegetation of disturbed and burned areas to determine need for additional measures and noxious weed control.
- Wildlife staff will monitor known snail colonies to determine effectiveness of protective measures and need for any further measures.
- Wildlife staff will monitor known and suspected goshawk nests annually for nesting activity.
- If funds are available, engineering and hydrology/soils specialists will monitor effectiveness of erosion control measures (seeding, water bars, etc.) one and three years following installation.
- If funds are available, hydrology/soils staff will monitor soil compaction at a sample of timber sale landings and harvest units.
- Timber sale administrators and hydrology/soils specialists will monitor application and effectiveness of Best Management Practices.
- The district planning team will monitor project implementation following completion of activities.